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Matteo Di Biagi
DTG-University of Padua

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Trust Generation through Extralegal Mechanisms: Reputation as a Valued Asset in eMarkets

Matteo Di Biagi

DTG-University of Padua, Italy
DiBiagi@gest.unipd.it

Abstract

The scope of this paper lies in the study of the trust factor within electronic transactions. Considerable importance has recently been given to this factor since the Net limits direct interpersonal relations and often does not even allow recognition of the opposing party. The risks of electronic commerce are also often highlighted, demonstrating that the international legal mechanisms currently in place are inefficient. Using this assumption as a starting point, the main risks of electronic markets will be highlighted and the sources of trust proposed in the literature will be discussed. The main objective, however, will be to analyze the extralegal mechanisms- in particular the creation of reputation trust.

1. Introduction

Parties undertaking an electronic transaction expose themselves to a level of risk that is directly proportional to the amount of information available to each side. Economic systems typically exhibit two situations (Klang, 2001): 1. perfect information where both sides possess full relevant information needed to pursue the transaction, 2. informational asymmetry in which there is an unequal distribution of information. Real economic conditions are more typically characterized by the second scenario (Tan and Thoen, 2002). Akerlof (1997) elaborates on this concept with the classic example of the used car market: the seller has information that the potential buyer does not possess, such as the real or qualitative value of the car; the buyer, on the other hand, can only hypothesize the value of the car in proportion to the time and evidence available to him, and because the latter are limited, the actual selling price will not completely reflect the true car value.

Information asymmetries have a direct effect on the degree of risk since they leave space for opportunistic maneuvering on both sides and reduce control over the final outcome of the transaction (Williamson, 1975 and 1985)

The problem associated with informational asymmetries becomes even more critical in e-commerce where relationships are digitalized and a physical separation exists between

parties (Bons et al., 2001). The screen created by the electronic medium- which inevitably separates the parties involved in the transaction- limits direct interpersonal relationships and recognition of the other party. Returning to Ackelof's example, the electronic transaction does not allow a degree of verification necessary for filling informational gaps, and as a result opportunistic behavior can frequently manifest with the introduction of incorrect or devious information. These baseline conditions have led some authors such as Tapscott et al (2000) to state that the generation of trust is the sine qua non condition for the proper functioning of a digital economy. Others have pointed to the lack of legal mechanisms that could guarantee trust on the Internet. Klang (2001), for example, believes that legal enforcement at the international level is inefficient, while Ba et al (2002) have demonstrated that the legal system is incomplete in e-commerce.

The paper is a theoretical analysis with the objective of understanding the extralegal mechanisms necessary for the trust generation - particularly with respect to reputation as a value asset in electronic markets. Despite the theoretical contributions on the concept of trust permit an analysis of both B2C and B2B relations, the paper principally used business-to-consumer empirical evidence which allowed the formulation of the first hypotheses on reputation mechanisms. These hypotheses can be verified in more depth in future work related to B2B operators.

The underlying assumption of this work is the necessity for trust in electronic transactions- this is highlighted in the second section, showing how the Internet accentuated information asymmetries. The third section recalls the primary theoretical contributions on the concept of trust, placing attention on the two main schools of thought: the economic one that points to the institutions as the main mechanism in trust generation (Coase, 1984; Dunn J., 1988; Williamson O.E., 1993) and the sociological one that refers to social relations (Granovetter M., 1985; Shapiro S.P., 1987; Fukuyama F. 1995). In the fourth and the fifth section, the attention then turns to extralegal mechanisms and, once reputation has been established as a value asset in electronic markets, the factors for its generation will be discussed.

2. Risks in Electronic Transaction

In Table 1 the conditions of guarantee required by a seller and buyer to conduct a transaction, according to Froomkin (1996), are shown. In face-to-face relations, tangible aspects of the exchange allow these guarantees to be provided. The physical presence of a sales point favors information authentication on the product and who is selling it. The execution of the transaction phases can be demonstrated by the exchange of paper documents (confirmation, integrity and recourse). Receipts, as well as documents coming from third parties (such as checks, receipt of a POS system or credit card) can confirm payment; delivery receipts show that a good has been received. Such documents reduce the possibility of a party denying the happening of actual physical events and furnishes guarantees against a buyer's potential refusal to pay or denials of receipt of the good.

When the transaction occurs over the Internet, several problems enter into play that are related to the digitalization of the relationship. The first problem, cited by Ba and Pavlou (2002), is related to authentication and certification problems deriving from the anonymity of the transaction participants. In electronic auctions, for example, an e-mail is all that allows identification of the buyer and seller, and such addresses are freely available from an Internet Service Provider (ISP). The possibility of hiding one's identity creates a strong informational asymmetry that does not allow the opposing party to know who is hiding behind a false email. The informational gap that is created leaves space for opportunistic maneuvering that can lead to fraud and unethical behavior.

Another problem is related to uncertainty regarding product quality and services (eg. delivery). In e-commerce, the buyer visualizes a good as shown on a Web page and can not verify the reported information, but has to trust the declarations of the sellers (Fung and Lee, 1999). Internet represents a barrier that creates an informational asymmetry between seller and buyer.

Table 1: Merchant and Buyer Desires (source: Froomkin, 1996).

Merchant's Desires

Authentication. Knowing the buyer's identity before making the sale may assist in proof of order and guarantee of payment.

Certification. The merchant may need proof that the buyer possesses an attribute required to authorize the sale.

Confirmation. The merchant needs to be able to prove any third party involved in the transaction that the customer did indeed authorize the payment.

Nonrepudiation. The merchant wants protection against the customer's unjustified denial that he placed the order, or that the good were not delivered.

Payment. The merchant need assurance that payment will be made. This can be achieved by having payment before sale, at time of sale, or by provision of a payment guarantee.

Anonymity. In same case, the merchant may want to control the amount of transactional information disclosed to customer.

Buyer's Desires

Authentication. Confirming the seller's identity prior to purchase helps ensure that goods will be genuine, and that service or warranties will be provided as advertised.

Integrity. Protection against unauthorized payments.

Recourse. Comfort that there is recourse if the seller fails to perform or deliver.

Confirmation. A receipt.

Privacy. Control over the amount of buyer/transactional information disclosed to third parties.

Anonymity. Control over the amount of transactional information disclosed to merchant.

As a result, e-commerce has the inevitable effect of increasing asymmetries already in existence in traditional commercial interactions. The lack of complete information on the opposing party and on the sold product creates an informational gap that leaves space for what Williamson (1985) defines opportunistic behavior amongst relevant parties. Mishra et al. (1998) illustrate examples of opportunistic behavior, such as the introduction of false or incomplete information on a product, or deviations from contractual obligations.

Given that, Web interactions have a higher level of baseline risk with respect to traditional exchanges: analysis of the trust factor and how to generate it becomes important. This is the only way to limit risk and ensure low transaction costs (Jarvenpaa & Tractinsky, 1999).

In the following section, several contributions to the theory of trust will be recalled-starting with a definition of the term and then proceeding to a classification of the main mechanisms that contribute to Trust generation.

3. Dimensions of Trust

In the literature we may find a series of definitions of Trust¹, summarized by Gambetta (1988): “There is a degree of convergence in the definition of trust which can be summarized as follows: trust... is a particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action... When we say we trust someone or that someone is trustworthy, we implicitly mean that the probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him.” As expressed by Gambetta, trust has a strong subjective component linked to how the individual perceives the reality in which he operates and the actions of the parties he interacts with. The way in which agent ‘A’ evaluates the performance of agent ‘B’ is the type of study that permits us to understand the trust factor and its generative mechanisms. There are two schools of thought, however, that approach the issue from different perspectives: the economic standpoint and the sociological one.

The first considers trust from the point of view of the environment in which the transacting party operates, and the institutions that regulate his behavior. Coase (1984) states that human action is guided by the constraints set by institutions (laws, norms, government organs, banks and other intermediaries). This view brings Williamson (1993) to consider trust as the analysis of these constraints and the risks associated with the execution of the transaction (calculative trust). According to the economic school, the subjective evaluation of ‘B’'s actions is done through an analysis of the institutions that constrain the former's actions. Contract clauses, institutions that control and supervise, norms and intermediaries supporting the transaction provide the necessary guarantees for “A” to operate within an economic system.

Table 2: Trust Generation in Economic Transaction

A definition of Trust	Trust dimension	School	Mechanisms for Trust Generation
“Trust is a particular level of the subjective probability with which an agent assesses that another agent or group of agent will perform a particular action” (Gambetta, 1988)	Calculative (Coase, 1984; Williamson, 1993)	Economic	Institutions control and guarantee economic transactions. Laws, norms and relevant official bodies constrain human behavior.
	Reputation (Granovetter, 1985; Zucker, 1986; Shapiro, 1987)	Economic/ sociological	Interaction amongst parties generates (or destroys) reputation, which in turn generates (or destroys) Trust.
	Community (Deming, 1986; Shapiro, 1987; Bigley and Pearce, 1998)	Sociological	Social relationships create a sense of belonging, moral obligations and value sharing that are the basis of deep trust.

The second school of thought -the sociological one- places greater emphasis on the individual person behavior and character, as well as interpersonal relationships and group interactive dynamics (Bigley and Pierce 1998). ‘A’ is studied as a member of a social system within which he has a series of relationships, or ties, of varied nature (sentimental,

¹ For a wide explanation about Trust definition see McKnight D.H. and Chervany N.L. (1996).

kinship or belonging). Institutions are only cited when comparing the individual to abstract systems such as law, security or health (Shapiro, 1987; Zucker, 1986). Such studies have been applied within firms in the organization of human resources and in economic interactions. Fukuyama (1995), for example, describes company networks as based upon reciprocal moral obligations, conventions and social norms. Trust, from this point of view, is indicated by Adler (2000) as a functioning principle of hybrid coordination forms, set between the markets and hierarchies. While markets are based on price and hierarchies on authority, these intermediary forms are based on trust.

Out of these two schools of thought, three dimensions of the Trust variable emerge- all generally linked to the economic or sociological approach (see Tab.2). *Calculative Trust*, *Reputation Trust* and *Community Trust* are the three interpretive models necessary for a study of trust in economic transactions.

The objective of this work therefore becomes an analysis of the extralegal mechanisms of trust generation, and will continue with an in-depth study of the mechanisms of reputation while abandoning the approach of trust generation through legal constraints.

4. Extralegal Trust Generation Mechanisms in the Internet Age

Zucker (1986) specifies extralegal mechanisms as interaction repetitiveness in a social system. Part 'A' performs a transaction with part 'B' and comes to understand the latter's behavior and can express a judgment that will enhance or diminish B's reputation. In an economic system, internal interactions create (or destroy) the parties' reputation, generating (or destroying) trust. Reputation Research Network Community, cite in his web-site, the three benefit of reputation mechanism (<http://databases.si.umich.edu/reputations/>):

- helping people decide who to trust;
- encouraging people to be more trustworthy;
- discouraging those who are not trustworthy from participating.

Each party tends to initiate relationships with entities whose behavior or reputation is well established (Granovetter, 1985; Shapiro, 1987). The reputation factor is an asset of elevated value since it fluidifies the transaction and lessens the importance attributed to contractual clauses (Chiles & McMackin, 1996).

The reputation of an operator allows us to evaluate his future behavior and therefore understand whether he is trustworthy. Smith (1910) states that "it is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regards to their own interest." The point made here is that the regulation of transaction occurs not through law but through the market mechanisms of trust and reputation (Klang, 2001). Parties whose actions do not support their original promises will develop an untrustworthy reputation and will no longer be able to operate.

Reputation creates increased fluidity in economic transactions and serves as a regulator of opportunistic behavior. It is in the interest of each party to behave correctly since incorrect actions are punished by a loss of reputation and eventually by a potential exit from the market. Obviously, these effects can occur where parties know each other and each other's actions are verifiable. These mechanisms lose their efficacy in larger and more complex realms, such as a large metropolis or a national geographic area. In this case, unethical behavior has less resonance and the diffusion of distorted information is not immediately verifiable or confrontable between parties. As a result, one would expect

that the mechanisms of reputation are further dampened in digital environments: the world wide electronic markets and the relative anonymity of the parties involved make it difficult to judge the trustworthiness of a counterpart.

In reality, however, certain facts point in a different direction. Case studies such as Amazon.com, Dell.com and eBay.com clearly show that creation of reputation has consolidated their online leadership. Amazon comes to mind to any consumer that wishes to purchase books through the Internet and despite the fact that a variety of operators have attempted imitations, its reputation has allowed it to defend its leadership position (85% share of online book sales). Dell.com retains 14.4% of the personal computer market (second only to the colossal Compaq-hp, at 17.2%), uniquely through online sales. Even in this case the client trusts in the reputation of the Dell brand which guarantees the correct execution of the electronic transaction. Finally, eBay has over 42.4 million subscribed users (eBay announcements, 2002), making it the best known reference point for online auctions. eBay's fame generates trust for the user who participates in Internet auctions even if only done for the first time².

In addition to these trends, it should also be noted that Jarvenpaa et al. (1999) and Shneiderman (2000) are agreed in concluding that the successful online sales performance is linked to the reputation of the operator and the latter's dimensions.

The tendency to favor well-known business entities, whose performances in commercial transactions are known, is also favored by the lack of other forms of guarantees. Consumer trust in brand reputation is based on the lack of other mechanisms of control over the execution of electronic transactions. Legislation associated with e-commerce is still not clear and, to worsen matters, is not homogeneous across nations. In the European Union, for example, several years are still required before all member states assign the same value to an electronic document as that given to its paper counterpart. At the moment, each country uses procedures and different documents to ascertain the execution of a transaction (es. the order itself, invoicing, delivery). Not even the legal value of these is common across the world- often creating controversies (Tan and Thoen, 2002). Klang (2001) recognizes that an appeal to international law is not efficient due to the lack of agreements. Ba et al. (2002b) suggests three reasons why the legal system is incomplete: 1. "legal regulation and control cannot keep pace with the development of electronic commerce"; 2. "the extant laws in conventional commerce might not be strictly enforceable in electronic commerce"; 3. "resorting to legal enforcement in electronic commerce might be impracticably expensive or even impossible for micro-payment transactions". The same authors also refer to extralegal mechanisms as a needed factor for the performance of electronic transactions.

If we start with these assumptions, it then becomes imperative to understand how the cited operators have generated *reputation trust* to the point that the consumer has chosen to ignore the risks associated with electronic transactions. To this end, *reputation trust* may serve as a critical component of a firm's business strategy (Urban et al, 2000).

5. Reputation as a Value Asset

In a variety of contexts, when one refers to the Internet, the term virtual is often introduced: virtual economy, virtual markets, virtual transaction. Online business models tend to virtually replicate real physical systems, such as traditional marketplaces.

² Other examples which demonstrate the importance of reputation in the digital economy can be viewed at the Reputation Reserach Network Community homepage: (<http://databases.si.umich.edu/reputations/>).

Operators tend to digitally reproduce those mechanisms that permit regularity of exchange and which Klang (2001) defines as the market mechanism of trust and reputation.

The examples of Internet companies in the previous section show how reputation is a highly valuable asset for those operating online and even has strategic impact (Urban et al, 2000)³. What follows is an attempt to summarize the factors that influence the reputation of online operators through both empirical evidence as well as theory proposed in the literature.

Size

Jarvenpaa et al. (1999) developed and tested a theoretical model about the causes and consequences of trust in an Internet store. Their model suggests that customers' evaluations of a store's reputation and size affect their trust in the store itself. Size in virtual word is perceived as the presence that the entity has on the Web-this can be influenced by advertising banners on other sites, the number of subscribed users, page views and links that lead to the web site. The 42 million subscribed users of e-Bay, the links to the site www.ebay.com in different e-shops and its international presence specific to each country (eg . www.eBay.de, www.eBay.it), offer a glimpse of its size.

Also partnerships and acquisitions allow for a more powerful online presence. In 2001 Ebay acquired i-bazar- its primary European competitor- thereby consolidating its position as the major online trading community (<http://www.shareholder.com/ebay/news/20010221-33047.htm>). By typing in www.ibazar.com one gets directly linked to the eBay homepage.

Relationship to the Non-Virtual World

Generally business entities that also have a physical presence- even just a certain operational aspects such as distribution or delivery, generate a greater level of trustworthiness towards the consumer, with a corresponding increase in reputation.

Brick-and-mortar stores help to build trust by providing a positive and tangible shopping experience, a place to return unwanted purchases, a place to examine the goods and a brand with which consumers are already familiar. As these advantages become more widely acknowledged, some pure e-shop may become hybrids. Etrade and Gateway have started to provide physical outlets, for example.

Network Systems of Relationships

Several authors believe that the source of reputation trust lies in belonging to a network system of relationships (Granovetter, 1985; Mayer, Davis, & Schoorman, 1995). Reputation can be enhanced by creating a connection with established and well-known entities. The client-supplier relationship also falls within this realm, where advantage is derived, for example, by being the supplier of an accredited multinational company. Dell.com, for example, has also consolidated its reputation by serving as a supplier to government institutes and with U.S. public administration.

³ Reputation importance is highlight in reputation systems research community on the web, where people study very specific mechanisms for collecting feedback from transaction parties in order to compute levels of reputation (<http://databases.si.umich.edu/reputations/>).

Palmer et al (2000) believe that relationships with intermediaries play an important role in generating reputation trust. A company can take generate such trust by outsourcing its payment processes to a secure and reliable bank, or by requesting the certification of processes through a known entity.

Shankar et al (2002) also believe that online trust can be impacted through online partnerships. Another example is the online alliance between AOL and Autoweb, an online automobile selection service. Being the preferred autoselection service on AOL, Autoweb now stands to gain a higher level of trust from its stakeholders than when it previously wasn't linked to AOL. Obviously these strategies must be done with care because, in this scenario, AOL may be perceived as biased, thereby losing a certain degree of trust among its consumers.

Finally, another interesting case is that of Trusted Third Parties (TTT) that serves as a security guarantee by placing their sigil on the homepages of Internet sites⁴. TTT's sigils increase the reputation on an online business entity, guaranteeing its users that its behavior is ethical and conforming to the certification principles. Hoffman et al (1999) considers user privacy policies an important factor in reputation: if the user perceives that his data is being used for other motives (eg commercial benefit), the professional image of the entity would be tarnished.

Feedback

Shapiro and Varian (1999) use the term positive feedback to explain first-mover dynamics: the first to enter a market can take advantage of its dominant position, thereby sparking a virtuous cycle that continues to consolidate its leadership. From the point of view of reputation trust, positive evaluations increase reputation as well as market position, sparking such a virtuous cycle; conversely, negative evaluations promote negative feedback that can weaken the company.

In electronic markets, the identification of participants through digital certificates allows an evaluation to be made on the opposing commercial party. Ba et al (2002b) have shown- through the use of game theory- that feedback mechanisms regulate the market, and in fact "the most utilitarian course of action for a market participant is to behave honestly".

eBay has created a feedback forum, where each buyer can give a score to the seller at the end of each auction. The users with the highest score are classified as PowerSellers: they are exemplary members who are held to the highest standards of professionalism, having achieved and maintained a 98% positive feedback rating and an excellent sales performance record.

6. Conclusions

This paper- by recalling transaction cost theory- has pointed to the high risks present in e-commerce. Informational asymmetries are amplified by the electronic medium, thereby accentuating opportunistic behaviour that is particularly hazardous for those buying and selling through the Internet. Starting with this assumption, we have attempted to

⁴ The Industry Standard (1999) has ranked TRUSTe⁴ and BBB Online⁴ as the prime "security brands" capable of generating Trust on the Net. Another well-known brand is VeriSign which certifies safe data transmission (Palmer et al., 2000).

understand how some business models have managed to generate trust for those operating on the Internet and be successful.

The inefficiency of legal mechanisms for the proper functioning of electronic markets is highlighted in recent studies (Klang, 2001; Tan e Thoen, 2002; Ba et al., 2002), and serving as an obstacle in the creation of Institutional Trust. The same authors also refer to extralegal mechanisms as necessary for the performance of electronic transactions.

The importance of Reputational Trust thus becomes evident and allows the psychological barrier created by the risk of electronic transactions to be overcome. The final part of this work attempts to highlight the factors that allow one to create reputation online. From what has emerged it is clear that the size of the business entity, the network system of relationships/partnerships and the connection to the physical world are of paramount importance. Finally, the creation of systems of online feedback allow the replication of reputation mechanisms found in traditional offline marketplaces. Entities that operate ethically obtain positive evaluations and consolidate their position, while those that act unethically obtain negative evaluations with strong penalizing effects.

Finally, it is important to note that reputation is also highly important for the dynamics that manifest in digital economy. In the particularly turbulent environment of the Net, where it is easy to start a business and easy to fail-and where it is difficult to identify the parties involved- reputation becomes a highly valuable asset.

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